

Client: <i>Intrepid Chem 1021 Corporation</i>	Industry: <i>Marine</i>
Vessel: <i>Chemical/Oil Carrier</i>	Date: <i>September 2013</i>
Location: <i>Antwerp Ship Repair Yard</i>	Products: <i>Epo-chem™ RE 500P & RW 500</i>

Overview

The chemical/oil carrier, built in 2011 and operated by Bernard Schulte Cyprus, had a requirement for a cargo tank refurbishment of 1200m² after the original coating (from new) had suffered failure.

Challenge

To remove all the previous coating to a sound substrate and provide a protective lining that would withstand a wide range of aggressive chemicals at high temperatures. Due to the clients budget and time constraints, a cost-effective alternative surface preparation method to grit blasting had to be considered. **Chemco** offered to utilise a revolutionary method of water blasting and use of a **solvent-free** coating system for the first time in this industry. The refurbishment process had to be completed within 10 days.

Solution

To achieve this challenge, water blasting was chosen as the alternative surface preparation method. **Chemco's** unique **Epo-chem™ RE 500P and RW 500** were specified as the preferred coating system. **Epo-chem™ RE 500P** is a **solvent-free**, surface (**rust tolerant**) epoxy Novolac primer and **RW 500** is a **solvent-free** epoxy Novolac glassflake topcoat. The original coating was removed by high pressure water jetting to achieve a WJ-2 standard. The following specification was applied:

- One stripe coat: RE 500P @ 100µ DFT
- One full coat: RE 500P @ 100µ DFT.
- One stripe coat: RW 500 @ 100µ DFT.
- Two topcoats: RW 500 @ 200µ DFT each.

Total DFT = 500µ

Continued overleaf

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Photographs:

- Nos. 1-2 Original Failed Condition of Existing Lining
- No. 3 Stripe Coat of Epo-chem™ RE 500P on the Rusty Surface

Outcome

The work programme was successfully completed by **Chemco's** approved contractor, MSTC Global, in 10 days (including 3 days for post-curing). Substantial time and cost savings were achieved by post-curing to 35°C instead of the industrial procedure of 70°C. The system will increase the vessel cargo tank life-expectancy by another 5 - 10 years as requested by the owner. All the cargo tanks were completed to class standard and certified accordingly to the satisfaction of all concerned.

Benefits

With the **Chemco** system being applied to a water-jetted surface, it enabled the job to be completed ahead of schedule in 10 days, instead of 21 days as originally quoted by other contractors. Full refurbishment of cargo tanks utilising the procedure of water-jetting is a revolutionary breakthrough for the marine industry which has the following benefits:

- Solvent-free
- Excellent chemical and high temperature resistance
- No grit blasting
- Fast-curing and quick over-coating (faster application)
- Reduced contract duration and downtime
- No major delays
- Ease of decontamination (no cargo contamination).
- High gloss finish
- **Chemco** systems will protect the substrate for a minimum of 5 years

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Photographs:

- No. 4 Stripe Coat of **Epo-chem™ RW 500** on Primed Surface of **Epo-chem™ RE 500P**
- No. 5 Contrast Between Finished Application of **Epo-chem™ RW 500** and Original Surface
- No. 6 COT 2 Starboard After Carrying Ethanol for 14 days
- No. 7 COT 5 Port After Carrying Ethanol for 14 days